

Work Order ID 73375

73375

Page 1

May-30-12 7:44:57 AM

Item ID: D350-748-241TRN

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Crosstube Turning Detail

Start Date: 8/31/11 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/02/11 Req'd Qty: 1.00

1

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D350-748-241	F

100

0.00

100

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs on both ends as per Folio FA647
2-Turn first side as per Folio FA647
3- File transition lines smooth.

12-1-23

mm.l

110

QC1- Inspect dimensions to dimension sheet

0.00

110

QC

Memo

0.00

Quality Control

12-1-23

mm.l

120

0.00

120

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA647
2- File transition lines smooth.
3-Scribe part # as per Dwg D350-748-241

12-1-23

mm.l

Work Order ID 73375

73375

Page 2

May-30-12 7:44:57 AM

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Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130 QC1- Inspect dimensions to dimension sheet 0.00

130

QC Memo 0.00

Quality Control

12-1-23

gdm

140 QC8- Inspect parts - second check 0.00

140

QC Memo 0.00

Quality Control

[Signature]

12-1-30

150 Large Fab 0.00

150

Crosstubes Memo 0.00

Crosstubes

Grind machining marks.


Rm

12-1-30

Pto

73375

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12.03.26	151	DRILL Ø0.188 TOOLING HOLE THRU CUFF, (DIYCI) PER CUFF, 2" FROM END. TOOLING HOLES IN EACH CUFF MUST BE PARALLEL TO EACH OTHER. SEE ATTACHED DWG		MO MO 12-3-26		 12.03.26 QB1047	

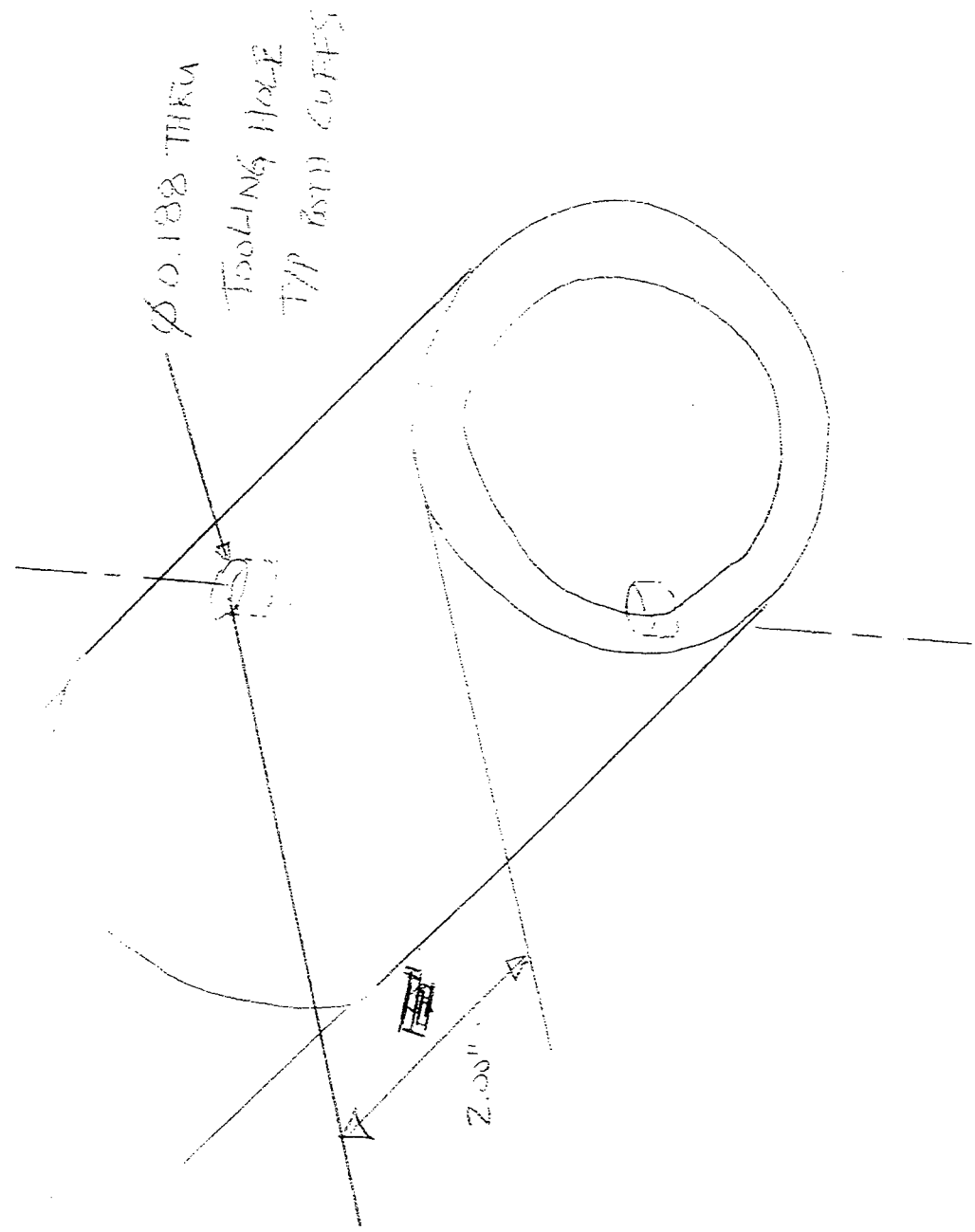
Part No: D350-748-241TRN PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Q 17.07



Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

May-30-12 7:44:57 AM

Item ID: D350-748-241TRN

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Crosstube Turning Detail

Start Date: 8/31/11 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 9/02/11 Req'd Qty: 1.00 * 1 *

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

Outsource process - Heat Treat

0.00

160

Outsource1

Outsource process - Heat Treat

Memo

0.00

Issue P/O: 16600
Heat Treat to min 180 KSI As per Dwg D350-748-241
Sand Blast tube after Heat Treat
Possible Supplier: Vac Aero
Ensure Certificate of Conformity is attached

170

Receive & Inspect for Damage & Mat'l Certs

0.00

170

Packaging

Packaging

Memo

0.00

Ensure certificate of conformaty is attached

180

QC6- Inspect dimensions to drawing

0.00

180

QC

Quality Control

Memo

0.00

Memo * See ~~at~~ Inspection Sheet

Work Order ID 73375

73375

Page 4

May-30-12 7:44:57 AM

Item ID: D350-748-241TRN Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Crosstube Turning Detail
Start Date: 8/31/11 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 9/02/11 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* Packaging Packaging	Packaging Memo Identify and stock in kanban rack Location: <u>1/10</u>	0.00 0.00	<u>RR836998</u>			<u>DP 12-6-7</u>			
200 *200* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				<u>12/6/26 JF</u> <u>MF 12-06-25</u>			

Picklist Print

May-30-12 7:44:57 AM

Page 1

Work Order ID: 73375

Parent Item: D350-748-241TRN

Start Date: 8/31/11

Required Date: 9/02/11

Parent Item Name: Crosstube Turning Detail

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 08-03-06 DD verified by:ec
IPP Rev B Removed polish 08.04.02 EC verified by : DD
IPP Rev C Removed LPS-3 08.06.23 Ec verified by: DD IPP Rev D 11.02.24 as per dwg
rev.F DD verf: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6015-125 Crosstube Material		Manufactured	No			120	Each	38.0000	1	1			

Location

Loc Qty

Loc Code

HALL

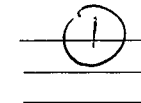
38

61380

4

72511

34



12-1-18
M. J. C.

DART AEROSPACE LTD		Work Order:	83699
Description: Crosstube Assembly (AS350/355 High Aft)		Part Number:	D350-748-241
Inspection Dwg: D350-748-241 Rev: F		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

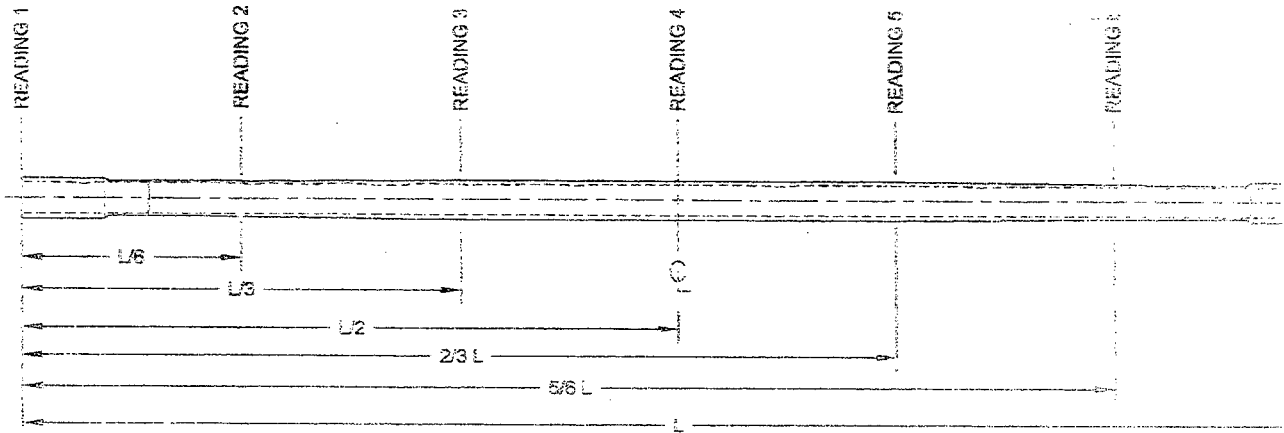
Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245	✓		
	2.180	+0.005/-0.000	2.185	✓		
	2.180	+0.005/-0.000	2.181	✓		
	2.208	+0.005/-0.000	2.210	✓		
	2.234	+0.005/-0.000	2.238	✓		
	2.253	+0.005/-0.000	2.252	✓		
	2.272	+0.005/-0.000	2.277	✓		
	2.299	+0.005/-0.000	2.303	✓		
	0.063	+/-0.010	.063	✓	Vern	CNC - 08
	4.26	+/-0.030	4.26	✓	"	
	R0.063	+/-0.010	.063	✓	RG	
	R0.50	+/-0.030	.500	✓	"	
SIDE B	2.240	+0.005/-0.000	2.245	✓		
	2.180	+0.005/-0.000	2.184	✓		
	2.180	+0.005/-0.000	2.181	✓		
	2.208	+0.005/-0.000	2.210	✓		
	2.234	+0.005/-0.000	2.236	✓		
	2.253	+0.005/-0.000	2.257	✓		
	2.272	+0.005/-0.000	2.277	✓		
	2.299	+0.005/-0.000	2.303	✓		
	0.063	+/-0.010	.063	✓	Vern	CNC - 08
	4.26	+/-0.030	4.26	✓	"	
	R0.063	+/-0.010	.063	✓	RG	
	R0.50	+/-0.030	.500	✓	"	
	122.70	+/-0.060	122.7		tape	

Measured by:	MJM-L	Audited by:	[Signature]	Preliminary Approval:	
Date:	12-1-19	Date:	12-1-30	Date:	

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue (P/O D350-748-201)	KJ/JLM	
B	12.02.02	Dwg Rev updated	KJ	[Signature]

DART AEROSPACE LTD		Work Order: 73375
Description:		Part Number: 874
Inspection Dwg:		Page 1

WALL THICKNESS MEASUREMENT



	WALL THICKNESS MEASUREMENT (IN)				DEVIATION (max-min)	TOLERANCE
	Q1	Q2	Q3	Q4		
READING 1 L=0"						
READING 2 L= 20	.128	.124	.118	.122		
READING 3 L= 40	.165	.158	.158	.159		
READING 4 L= 60						.0030"
READING 5 L= 80	.122	.131	.126	.121		
READING 6 L= 100	.130	.165	.155	.159		
READING 7 L= 120						

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

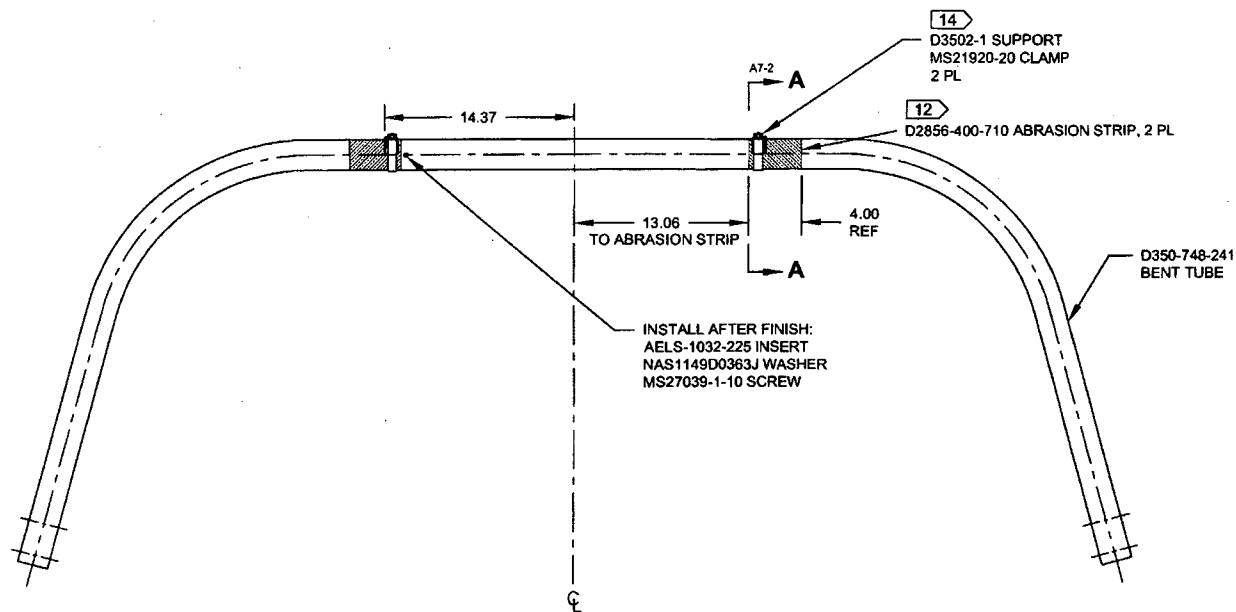
Item	Qty -241	Part Number	Description
1	X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D2856-400-710	ABRASION STRIP
5	1	AEIS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
8	1	MS27039-1-10	SCREW

GENERAL NOTES:

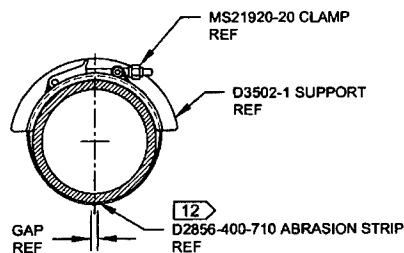
- 1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125
FINISHED LENGTH = 122.700±0.06
- 2) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 29.85 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT ALL EDGES FROM MACHINING
LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER
BENDING.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO
BENDING IS 6% BASED ON O.D.
- 11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING. ACCEPTABLE TO
VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.
- 12) INSTALL D2856-400-710 ABRASION STRIPS WITH A GAP ON BOTTOM SIDE OF CROSSTUBE,
CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- 13) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES,
NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY.
CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE
MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO
CRACKING/CHIPPING/GROOVES.
- 14) TORQUE CLAMPS 80 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT
NUT HAS NOT BOTTOMED OUT AFTER TORQUING.
- 15) MAX TWIST AFTER BENDING: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN
CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.25 (ZN C1-3).

RELEASED
2011-01-08
MP

F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A8-3); ADD TOLERANCES (ZN C6-3, D2-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6018-125 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	qp	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	qp		
CHECKED	h	DRAWING NO.	REV. F
MFG. APPR.	E	D350-748-241	SHEET 1 OF 4
APPROVED	h	TITLE	SCALE
DE APPR.	h	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



**D350-748-241
ASSEMBLY DETAIL**

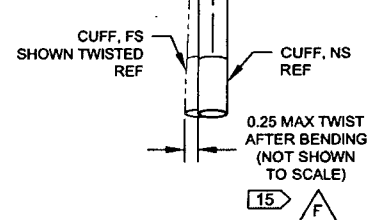
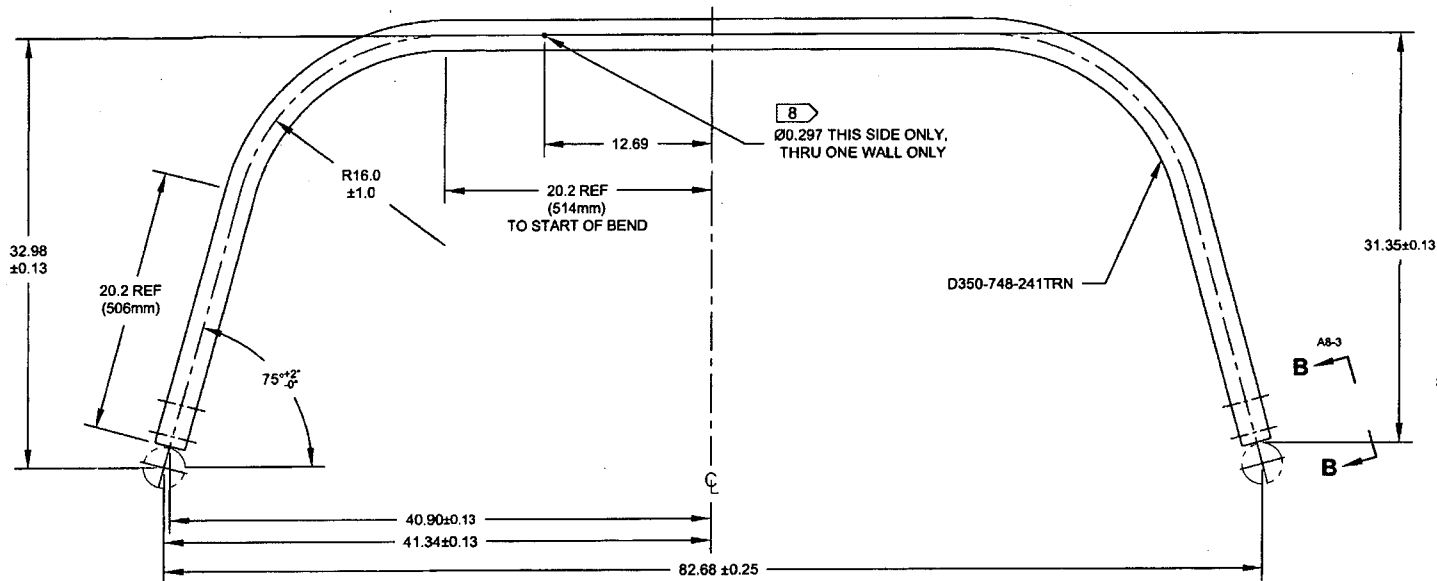


SECTION A-A D4-2
SCALE 4X

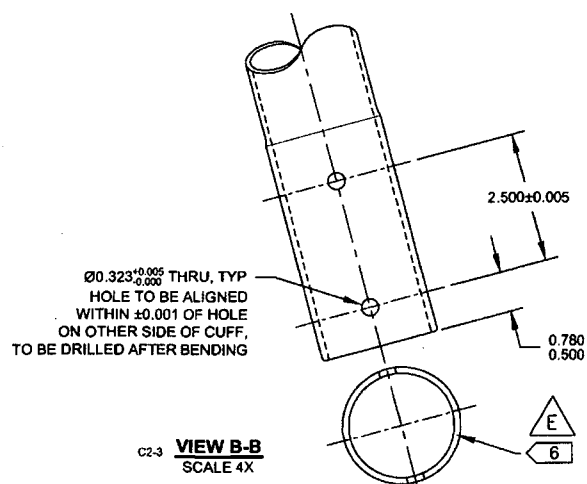
RELEASED
2011-01-19
JMT

DESIGN	90	DART AEROSPACE LTD	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	13	DRAWING NO.	REV. F
MFG. APPR.	13	D350-748-241	SHEET 2 OF 4
APPROVED	14	TITLE	SCALE
DE APPR.	14	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	10.11.23	<small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

73375



D350-748-241
BENDING AND DRILLING DETAIL 10



RELEASED
2011-01-18

DESIGN	90	DART AEROSPACE LTD	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	1/2	DRAWING NO.	REV. F
MFG. APPR.	1/2	D350-748-241	SHEET 3 OF 4
APPROVED	1/2	TITLE	SCALE
DE APPR.	1/2	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	10.11.23	<small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

METLAB
1000 E. MERMAID LANE
WYNDMOOR, PA 19038

Packir
Sales Ord

Voice: 215-233-2600
Fax: 215-233-5653

Sales C.
Ap

Sold To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Ship To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Customer ID	PO Number	Payment Terms
DARA	PO16600	Net 30 Days
	Ship Via	Process
	YRC	

Quantity	Item	Description	Total Shipped	This S
1.00	✓	1 PC. 74672 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		
1.00	✓	1 PC. 74673 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		
1.00	✓	1 PC. 74676 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		
1.00	✓	1 PC. 74678 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		

COMMENTS

SHIPPED BY SIGNATURE
METLAB

RECEIVED BY, SIGNATURE
DART AEROSPACE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

METLAB
1000 E. MERMAID LANE
WYNDMOOR, PA 19038

Packi
Sales Or

Sales

Voice: 215-233-2600
Fax: 215-233-5653

Sold To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Ship To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Customer ID	PO Number	Payment Term
DARA	PO16600	Net 30 Days
Ship Via	Process	
YRC		

Quantity	Item	Description	Total Shipped	This
1.00	✓	D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 1 PC 74712		
1.00	✓	D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 1 PC 74718		
1.00	✓	D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 1 PC 79010		
		D-350-748-141TRN CROSSTUBE		

COMMENTS

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METLAB

RECEIVED BY, SIGNATURE
DART AEROSPACE

W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

METLAB
1000 E. MERMAID LANE
WYNDMOOR, PA 19038

Packir
 Sales Org

Voice: 215-233-2600
 Fax: 215-233-5653

Sales (

Sold To:
 DART AEROSPACE
 1270 ABERDEEN STREET
 HAWKESBURY, ON K6A 1K7

Ship To:
 DART AEROSPACE
 1270 ABERDEEN STREET
 HAWKESBURY, ON K6A 1K7

Customer ID	PO Number	Payment Terms
DARA	PO16600	Net 30 Days
	Ship Via	Process
	YRC	

Quantity	Item	Description	Total Shipped	This S
1.00	✓	HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 1 PC. 79011 D-350-748-141TRN CROSSTUBE		
1.00	✓	HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 1 PC. 79013 D-350-748-141TRN CROSSTUBE		
1.00	✓	HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 1 PC. 73372 D-350-748-141TRN CROSSTUBE		
		HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		

COMMENTS

SHIPPED BY, SIGNATURE
 METLAB

DAT

RECEIVED BY, SIGNATURE
 DART AEROSPACE

DAT

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

METLAB
1000 E. MERMAID LANE
WYNDMOOR, PA 19038

Packi
Sales O:

Voice: 215-233-2600
Fax: 215-233-5653

Sales C

Sold To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Ship To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Customer ID	PO Number	Payment Terms
DARA	PO16600	Net 30 Days
Ship Via	Process	
YRC		

Quantity	Item	Description	Total Shipped	This
1.00	✓	1 PC. 73375 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		
1.00	✓	1 PC. 79391 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		
1.00	✓	1 PC. 79392 D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC)		
1.00	✓	1 PC. 79393		

COMMENTS

SHIPPED BY, SIGNATURE
METLAB

RECEIVED BY, SIGNATURE
DART AEROSPACE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

METLAB
1000 E. MERMAID LANE
WYNDMOOR, PA 19038

Packir
Sales Org

Sales

Voice: 215-233-2600
Fax: 215-233-5653

Sold To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Ship To:
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

Customer ID	PO Number	Payment Term:
DARA	PO16600	Net 30 Days
Ship Via	Process	
YRC		

Quantity	Item	Description	Total Shipped	This
		D-350-748-141TRN CROSSTUBE HEAT TREAT TO MIN 180 KSI (MIL-T-6736OR AMS 2759-IC) 560 POUNDS TOTAL		

COMMENTS

SHIPPED BY, SIGNATURE
METLAB

RECEIVED BY, SIGNATURE
DART AEROSPACE

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



1000 E. Mermaid La., Wyndmoor (Phila.) PA 19038
Tel. (215) 233-2600 Fax (215) 233-5653

Certification

SOLD TO

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7

May 1, 20

Metlab Shop Order No:	71785
Purchase Order:	16600
Description:	Crosstube
Part No.:	D350-748-141TRN
Quantity:	14 Pieces
Weight:	560 Pounds
Material:	4130 Alloy Steel
Specifications:	Heat Treat to Minimum 180 KSI (MIL-T-6736OR AMS 2759-IC)

This is to certify that the above parts were processed as indicated above and conform to the specification requirements.

Results:

HRC 40 (182 KSI Tensile Strength)

METLAB

Quality Representative Mark Podob

MERCURY CONTAMINATION: During the heat treating process, testing and inspections, the product did not come in direct contact with mercury or any of its compounds nor with any mercury containing device.



Heat Treating and Metallurgical Con

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D350 X-TUBE CUFF MEASUREMENTS

TYPE	BATCH #	SIDE A	SIDE B
		TWO READINGS	TWO READINGS
AFT	B79393	2.221"/2.251"	2.227"/2.252"
AFT	B79391	2.251"/2.241"	2.236"/2.252"
AFT	B79392	2.238"/2.248"	2.220"/2.262"
AFT	B73372	2.243"/2.247"	2.223"/2.263"
AFT	B73375	2.245"/2.250"	2.236"/2.266"
FWD	B79010	2.230"/2.252"	2.235"/2.245"
FWD	B79011	2.200"/2.280"	2.248"/2.249"
FWD	B74718	2.208"/2.289"	2.242"/2.252"
FWD	B74673	2.189"/2.298"	2.247"/2.238"
FWD	B74678	2.240"/2.258"	2.262"/2.236"
FWD	B74672	2.253"/2.266"	2.260"/2.253"
FWD	B74712	2.264"/2.251"	2.255"/2.258"
FWD	B74676	2.229"/2.263"	2.239"/2.254"
FWD	B79013	2.249"/2.2236"	2.243"/2.245"

Notes: tubes are NOT sandblasted and are still a little crocked

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
				0				

NOTE: Date & initial all entries